



**Professional Service Industries, Inc.**  
PTL / A & H Flood Division

September 1, 1990

William E. Rose and Associates  
22 North Lincoln Street  
Hinsdale, Illinois 60521

Attention: Mr. Carl L. Goetz  
President

Re: Addendum to Preliminary Report  
Environmental Site Assessment  
Stony Creek Golf Course  
Oak Lawn, Illinois  
PSI File Number: 041-04039-1

Gentlemen:

The purpose of this letter is to provide additional information relative to two aspects of the referenced report - an additional option relative to construction of the ponds at the golf course, and a discussion of potential regulatory involvement. These issues were verbally addressed in our meeting at the Oak Lawn Park District Offices yesterday afternoon (when the preliminary report was provided).

During my earlier inquiries for the purpose of preliminary cost estimating for the removal of trash (during pond construction), I discussed this situation with Mr. Joseph Strosnik of American Waste Processing in Maywood (a hazardous waste TSD firm). Mr. Strosnik suggested that the excavated waste simply be reburied on the site. It could be incorporated below the high areas, or in berms around the ponds. This approach would appear to have the most merit, as both a positive way to achieve pond design shape and depth (in lieu of crushing by Dynamic Consolidation), and also being potentially far less expensive than removal. Also discussed was the possibility of eliminating the ponds. This would involve the use of an off-site location source for irrigation water storage, or other measures. Both of these options can be addressed by an appropriate design approach.

EPA Region 5 Records Ctr.



305318

William E. Rose and Associates  
September 1, 1990  
Page two of two


Also discussed at the meeting was the potential for future regulatory involvement. Although our preliminary opinion is that the golf course will not present a significant hazard, the regulatory position of the Illinois Environmental Protection Agency (IEPA) on this issue cannot be predicted. If the IEPA performed its own assessment at some future time (in response to a neighbor complaint, for instance) they might concur with our evaluation, or disagree and require substantial additional evaluation, or even extensive and costly remedial action. Since such uncertain aspects can affect the economic viability of the project; or the future liability position of the town of Oak Lawn, it is strongly urged that a formal agreement with the IEPA be sought on these matters.

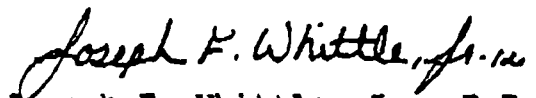
Relative to the potential for reburial of garbage on site (if that option is chosen), it will also be necessary to seek concurrence with the IEPA. It is possible that they would consider that reworking the garbage (excavating and reburial) constitutes a brand new landfill operation, subject to the present (very stringent) regulations. This position might eliminate such an option as being too costly.

We have appreciated the opportunity to provide you with environmental services. If you have any questions, please feel free to contact us.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

  
Gregory C. Butcher  
Division Manager

  
Joseph F. Whittle, Jr., P.E.  
Senior Division Manager

GCB/JFW:ds



**Professional Service Industries, Inc.**  
PTL / A & H Flood Division

August 29, 1990

William E. Rose and Associates  
22 North Lincoln Street  
Hinsdale, Illinois 60521

Attention: Mr. Carl L. Goetz

Re: Preliminary Report  
Environmental Site Assessment  
Stony Creek Golf Course  
Oak Lawn, Illinois  
PSI File Number: 041-04039

Gentlemen:

As authorized, Professional Service Industries, Inc. (PSI) is performing an Environmental Site Assessment at the referenced site. The objective was to provide information regarding the potential for the existence of hazardous materials at the site, relative to the intent to construct the golf course on the former landfill there. Sampling and testing have not been completed. This report is intended to provide our preliminary assessment, based on the information collected to date.

**BACKGROUND**

The property is located north of 103rd Street and west of Mayfield Avenue, in Oak Lawn, Illinois. It is bounded on the north and west by the Norfolk & Western and B & O railroads. A drainage canal, Oak Lawn Creek, flows to the southwest, and lies adjacent to the Norfolk and Western embankment. Another drainage canal, Stony Creek, flows to the west, and crosses the south third of the site. The site has been rough graded close to the golf course contours, except for the proposed ponds (centrally located). During pond excavation, the contractors halted work due to their concern for the garbage materials which they encountered.

William E. Rose and Associates  
August 29, 1990  
Page two of six

Available information indicates the site was a landfill operation roughly between 1959 and 1970. A wide variety of trash, garbage, and chemical waste was disposed by numerous parties, as was then customary. The waste materials were reportedly as deep as thirty (30) to forty (40) feet. All materials were crushed and rolled, and then covered with clay soils. By 1980, the waste was largely covered and rough grading began for the golf course. When fill was placed near the creeks, leachate was reported to flow into the creeks. Waste materials reportedly included paint, chemicals, trash, construction debris, tires, household garbage, fuel, solvents, paint, etc.

#### SCOPE OF ASSESSMENT

##### GENERAL

To date, the following activities have been completed for the environmental assessment: Preparation of a site safety plan, visual reconnaissance of the site, air photo review, review of prior geotechnical reports, interviews with knowledgeable parties, review of chain-of-title documents, collection of background research from various sources, soil test borings with monitor wells, backhoe test pits, screening of test pit cover soil samples with an HNu PID instrument, collection and analytical testing of groundwater samples from the monitor wells and the test pits, and a preliminary evaluation of the collected data. Activities which are not yet complete include a detailed review of the research data, sampling and testing of materials from the creek, additional sampling and testing of landfill cover and trash, and preparation of the final report.

##### MONITOR WELLS

Four (4) soil test borings were performed and converted into monitor wells. Two of these (MW-1 and 4) were installed into the landfill waste materials. The others (MW-2 and 6) were (coincidentally) installed into apparently natural soils, outside a waste-fill cell. The wells were developed and groundwater samples taken for analytical testing. Monitor well information is attached to this report.

##### TEST PITS

Ten (10) test pits were undertaken to permit better observation of the landfill cover soils and the waste materials. These were excavated (and subsequently backfilled) by a backhoe

Professional Service Industries

William E. Rose and Associates

August 29, 1990

Page three of six

while a PSI engineer took photographs and recorded observations of conditions. In addition, he utilized a portable photoionization detector (PID, by the HNu company) to screen cover soil samples for volatile organic compounds. Groundwater samples were also recovered for analytical testing from eight (8) test pits. Test pit information is attached to this report.

ANALYTICAL TESTING

The four (4) groundwater samples from monitor wells, and eight (8) groundwater samples from test pits were analyzed for numerous contaminants. The well samples were analyzed for Volatile Organic Compounds (VOC's) in accordance with the method EPA 624. The pit samples also were analyzed for VOC's, as well as the Base/Neutral and Acid Extractables (EPA 625) and eight (8) heavy metals. Analytical test results are attached to this report.

BACKGROUND RESEARCH

This work included the following items:

- Review of prior geotechnical studies and published data
- Interviews of knowledgeable parties
- Query of Agency and other sources including:

- Superfund (NPL) Lists
- Facilities Index System
- CERCLIS Lists
- RCRA Facilities
- National Spill Reports
- State Sites
- UST Information
- Landfill/Solid Waste Information
- RCRA Landfill Database
- Enforcement Activities

- Review of aerial photography

PRELIMINARY EVALUATIONSUBSURFACE CONDITIONS

The borings and test pits indicate that the cover soils on the site consist of compacted clay fills, ranging in thickness from five (5) to over twelve (12) feet. The waste materials

William E. Rose and Associates  
August 29, 1990  
Page four of six

are very heterogeneous, and underlie the clay cover. They extend down to a depth of as much as twenty-five (25) feet (in one monitor well) and have been reported to extend as deep as thirty (30) to forty (40) feet. There are areas on the site where waste does not exist (two test pits and two monitor wells), which presumably are natural soils outside the cells or trenches which were excavated to receive waste.

Underlying the landfill materials are dense glacial till soils, which include a mixture of gravel, sand, silt, and clay. These are assumed to be relatively impervious, although there are probably localized zones of high porosity and permeability. Below these tills are the dolomites and limestones of the Niagaran formation (not encountered in the borings or test pits). Its depth is uncertain, but available data indicates that it slopes downward slightly (10 to 15 feet per mile) toward the southeast. Its fractured upper surface has been used as a shallow source of domestic potable water, and groundwater gradients in it (perched on top of it) would probably be to the southeast.

In general, groundwater was encountered between eight (8) and fourteen (14) feet deep, in those test pits in trash. Where trash was not excavated, no groundwater was observed, indicating it to be deeper, or in relatively impermeable natural soil. Test pits were not left open (due to the attractive nuisance hazard) to allow long-term groundwater readings.

#### CONTAMINATION TEST RESULTS

The field screening which was performed on the cover soils during test pit excavation (PID instrument) gave no response. This could be interpreted to indicate that any volatile organic compounds in those soils (if present) were at levels less than one part per million (ppm), based on the manufacturer's information. As a result, these soils appear to be relatively "clean", and not contaminated, based on those data.

Groundwater test results for monitor wells MW-1 and 4 indicate a substantial degree of contamination by a large number of hazardous VOC's (Vinyl Chloride, Methylene Chloride, Benzene, Toluene, Xylene and others). In view of the site history, these contaminants are not surprising. Their levels are high enough to be of concern, however, and to be considered hazardous.

In contrast to MW-1 and 4, the other two (2) wells (MW-3 and 6) did not indicate detectable levels of any of the 34 VOC's tested. It is believed these two (2) wells are installed in

Professional Service Industries

William E. Rose and Associates

August 29, 1990

Page five of six

natural glacial tills, and such soils (at the wells) are relatively impermeable. These soils are therefore preventing contaminant migration laterally outside the waste-filled excavations. Such soils would also limit the potential for downward migration of contaminants into the underlying fractured rock. This barrier action would not occur where highly permeable deposits occur (stream channels, relic dunes or beach deposits, etc.) nor if excavation fully penetrated the clay-rich tills.

The extensive testing of groundwater samples from the test pits also indicated numerous contaminants at high enough levels to be considered potentially hazardous. These included Barium, Chromium, Lead, Benzene, Toluene, Ethylbenzene, Xylene, Phenol, Napthalene and others. Although their presence is expected, the levels indicated are surprisingly low to moderate in general (but still of concern).

Observation of the water exposed in the test pits generally indicated gas bubbles. These were not tested and could be of any compound. However, they could also indicate that decomposition of the waste is producing methane gas, which is a frequent occurrence in landfills.

#### PRELIMINARY EVALUATION

Based on the data collected to date, it is our preliminary opinion that development of the site into the proposed golf course does not constitute a significant hazardous potential. The very thick cover of clay soil substantially exceeds the required thickness for such layers that are normally required even under modern closure design. The thickness, and the low permeability of the clay soils, will provide adequate isolation of the golf course surface from the underlying waste and contaminants.

There are other aspects of concern which must be considered: Any below-ground construction creates the potential to closely approach the waste and permit upward seepage of either toxic or explosive (methane) contaminants. As a result, such construction should be minimized, and appropriate safety measures taken. Any structures on the surface should be designed to reduce the potential for infiltration of hazardous gases, by extra-stringent sealant measures or venting. In addition, there is a potential for structure settlement as decomposition or settlement of the waste occurs. Such concerns can be addressed by design or construction procedures.

William E. Rose and Associates  
August 29, 1990  
Page six of six

The formation of the planned ponds presents a problem with construction cost. Consideration has been given to the use of Dynamic Consolidation to crush the pond areas. However, this would first require cutting down the clay cover to a thin layer. Crushing would occur by means of dropping a large weight with a crane. The actual amount of crushing could not be predetermined, however, and it would not be possible to guarantee the proper pond shape or volume. As a result, it is necessary to at least receive price proposals from hazardous waste contractors to excavate and remove the waste materials from the pond area. This will require special permitting and special testing to confirm the nature of the waste. Recent inquiries to Chemical Waste Management, Inc. have indicated a disposal cost (not including excavation or transport) of \$21.00 to \$235 per cubic yard, depending on the nature of the waste.

Two (2) other concerns are the installation of a well for irrigation purposes, and the potential for stream contamination. We are concerned that a well within the landfill could potentially contaminate a deep potable aquifer. It is recommended that the well be moved outside and upgradient of the site. In addition, extra stringent well installation techniques must be undertaken. The degree of stream contamination is not yet known (testing has not been performed). It clearly has a high potential for contamination, and based on sampling and testing of stream sediment and water, it may be necessary to impose limitations on public access to the streams.

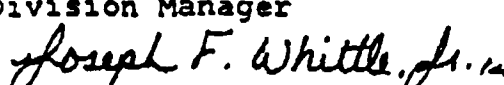
#### CLOSURE

If there are any questions about this report, please feel free to contact us. We anticipate that the remaining work will be completed, and the final report published within three (3) to four (4) weeks.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

  
Gregory C. Butcher  
Division Manager

  
Joseph F. Whittle, Jr., P.E.  
Senior Division Manager

GCB/JFW:ds  
Attachments



OCT- 1-90 MON 12:58 OAK LAWN PARK DISTRICT P. 81

90-258

03/2400002 Cool  
Stoney Creek Golf.  
SF/ Jeel



OAK LAWN PARK DISTRICT

5700 WEST 95TH STREET

OAK LAWN, ILLINOIS 60453

PH. (312) 857-2200

DATE: 10-1

TO: BRIAN CLAYTON / BOB CARSON

FROM: MARTIN LARSON

NUMBER OF PAGES, INCLUDING THIS PAGE: 9

OPERATOR: [Signature]

IF YOU DO NOT RECEIVE ALL PAGES OF TRANSMISSION, PLEASE CALL OPERATOR AT  
(708) 857-2226.

RECEIVED  
OCT - 2 1990  
IEPA/DLPC